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UNITED STATES DEPARTMENT OF AGRICULTURE
STATES RELATIONS SERVICE
WASHINGTON, D. C.

OFFICE OF HOME ECONOMICS.

ASH CONSTITUENTS OF FOOD.

A large number of analyses have been made to learn the kind and quantity of the ash constituents of various foodstuffs and reported in various scientific journals, etc., in this and other countries.

In connection with our work, we have not as yet brought together a summary of data on the mineral constituents of food.

A general discussion of mineral substances, their function in nutrition and similar topics, can be found in an article, entitled "The Mineral Nutrients in Practical Human Dietetics" by E. B. Forbes, which appeared in the Journal of Home Economics, March, 1916. You will find the subject of mineral constituents of food discussed in such volumes as "Chemistry of Food and Nutrition" by H. C. Sherman (New York, Macmillan Co., 1911) in the appendix of which is a table giving the ash constituents of different foods; and in the book, entitled "Food Products" (New York, Macmillan Co., 1917) by the same author. These publications can no doubt be consulted in your nearest public library, or the books can be purchased through any bookseller. Similar data can be found in "Cost of Foods" by Miss Flora Rose (Cornell Reading Courses, Farm. Ser., 1912, No. 7, pp. 41-52), which is sent gratis to residents of New York State. Possibly you could obtain a copy on request by writing to the Home Economics Department of Cornell University, Ithaca, N. Y.

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PROFESSOR ATWATER AND HIS WORK IN NUTRITION.

In general it may be said that W. O. Atwater was greatly interested in all problems pertaining to the betterment of home conditions. This interest extended to ventilation, general economy in living, and other such matters, though his special interest was given to human nutrition and his greatest contribution was made in food and dietetics. He was a pioneer investigator in this subject in the United States, and to his work perhaps more than to that of any other individual can be traced its great development in the United States during the last twenty-five or thirty years. As an illustration, it is worth recalling that the Lake Placid Conference of Home Economics, which later became the American Home Economics Association, owes its development to Professor Atwater's influence as much as to any other single cause.

As everyone knows, the Government interest in food investigation is due to Professor Atwater's efforts. Following some studies carried on for the Smithsonian Institution, the Bureau of Labor, and the Fish Commission, he instituted the Nutrition Investigations of the Department of Agriculture, of which the food studies of the Office of Home Economics of the Department of Agriculture are a continuation. He was responsible in large measure also for the interest in Nutrition Investigations carried on by many agricultural experiment stations throughout the country, having been the pioneer in this kind of work at the Connecticut Storrs Experiment Station. His death occurred in 1907. The work on human food which he instituted has been increased in scope recently to include studies of clothing, household equipment, and household management, as well as food. This work, now designated "Office of Home Economics", forms one of the subdivisions of the States Relations Service of the Department of Agriculture.

If additional data is desired as to Professor Atwater and his work, it can be found in Experiment Station Record 19(1907), No. 2, pp. 101-106, which may be consulted in any large library.

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COFFEE AND TEA AS TABLE BEVERAGES.

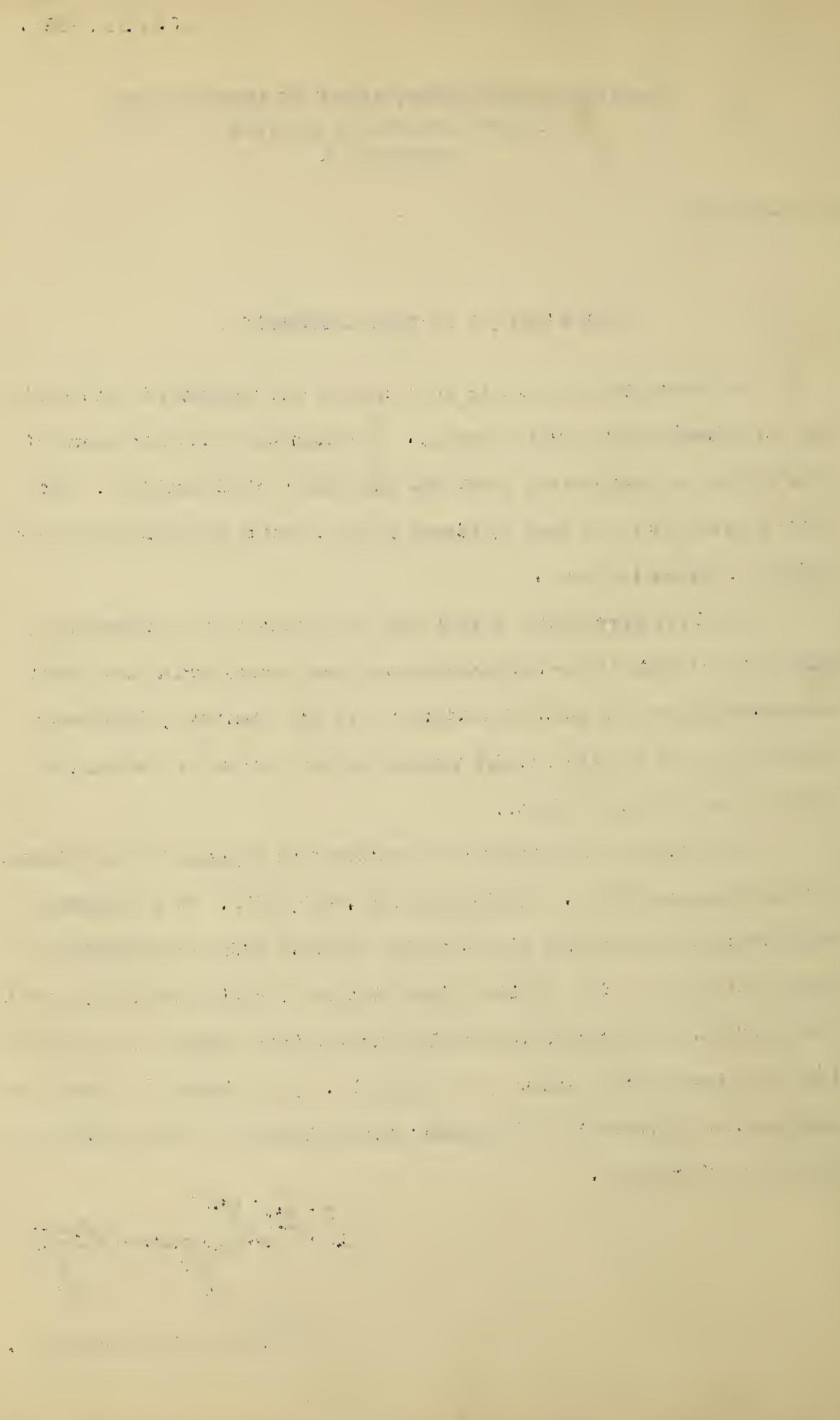
Not infrequently requests are received for information on coffee and tea drinking and similar topics. In connection with the work of this Office no experimental study has been made of the subject. However, a great deal has been published on this matter in scientific periodicals, text-books, etc.

It is not surprising to find that directions for coffee-making vary, since tastes differ and coffee which one person would like might seem ~~too~~ strong or too weak for another. In the same way, individuals may prefer light roasted or dark roasted coffee, or one of strong, instead of one of mild, flavor.

An article which may prove of interest has appeared in the Journal of Home Economics (Vol. 6. (1914), No. 5, pp. 480, 481). This summarizes experimental data reported in an article entitled "Concerning Methods of Making Coffee", by O. W. Willcox (Pure Products, 9 (1913), No. 12, pp. 611-615); and also in an article entitled "Better Coffee Making", by E. Aborn (Tea and Coffee Trade Journal, 25. (1913), No. 6, pp. 568-574). These can doubtless be consulted in the nearest public library or in the library of the State University.

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OFFICE OF HOME ECONOMICS.

THE NUTRITIVE VALUE OF FLOUR AND BREAD OF DIFFERENT SORTS.

The nutritive value of flour and bread of different sorts has been studied in connection with the food and diet work of this Office. In general, the investigations showed that, considering both composition and digestibility, the fine white flour supplied the body with more protein and energy than the coarser flours did, since they were somewhat more thoroughly assimilated.

In considering such questions, one must also take into account mineral matters and the recently discovered substances, such as "vitamins", which are present in minute amounts in a great variety of foods, including the outer portions of the cereal grains.

If fruits, vegetables, milk, and eggs are present in abundance in the diet, there is no reason to suppose that it will lack either vitamins or ash constituents. If, for any reason, the diet is very limited in the kind and quantity of foodstuffs available, it would be wise to choose the coarser grain products, which contain the whole grain or the bulk of it, rather than the finely milled products. It was such reasoning as this which led to the substitution of whole rice for polished rice in the Philippines, where the diet is very limited and rice makes up the greater part of it.

Many of the popular statements regarding grain products of different sorts are apparently based on belief and opinion rather than on experimental evidence. The consensus of opinion of well-informed physiologists seems to be that where flour is used as a part of a generous, mixed diet, such as is customary in the United States, the kind selected is very largely a matter of preference. It is also worth remembering that the use of different types of flour is one of the easy ways of securing variety in the diet, and variety is certainly very desirable.

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DIET IN DIABETES
 AND
 OTHER DIETS IN WHICH CARBOHYDRATES ARE RESTRICTED.

In the dietary treatment of diabetes, the carbohydrates are food constituents which require special attention. The bulletins of the Office of Home Economics on the composition of foods and similar matters do not subdivide the carbohydrate group and so do not give the proportion of starches, sugars, and other carbohydrates; these constituents, in accordance with general custom, being grouped together with similar substances under the designation "Carbohydrates or nitrogen-free extract." These publications, therefore, do not furnish the data necessary for planning diabetic diets. Moreover, the food investigations undertaken by the Department of Agriculture are, of necessity, carried on with families or groups living under usual conditions, and do not include the study of questions of invalid dietetics.

Connecticut State Station Bulletin No. 220, pt. II, entitled "Diabetic Foods" is a publication based on studies made in connection with pure food work, and contains a summary of many analyses of commercial and other diabetic foods together with a discussion of problems pertaining to diabetic diets. A copy of this may be obtained on application to Director E. H. Jenkins, Connecticut Agricultural Experiment Station, New Haven, Connecticut.

Two short articles dealing with the home preparation of diabetic foods have appeared in the Journal of Home Economics: "The Use of Diabetic Flours," by Amy L. Daniels and Grace Dulaney, Vol. 8 (1916), No. 3, pp. 137; and "A Cheap Home-made Soy Bean Meal for Diabetics," by Lydia J. Roberts and Elizabeth W. Miller, Vol. 10 (1918), No. 2, p. 65. Files of the Journal may be consulted in most large libraries, and individual numbers may be purchased for 30 cents a copy from the American Home Economics Association, 1211 Cathedral Street, Baltimore, Maryland.

In general it may be said that a person suffering from diabetes or any other condition necessitating a restricted diet should obtain and follow the advice of the most competent physician he can find. This is particularly desirable since individual cases apparently differ so much that a personal examination is necessary, and there is reason to believe that attempts at self-regulation of the diet and self-treatment may prove harmful. Under any circumstances, in our opinion, it is much better to get from a physician a list of the foods which he will permit, than to attempt to make one's own selection.

Conditions which are commonly treated by dietetic regulation have received a great deal of attention in recent years at the hands of the medical profession. If a person needing such advice does not know where to secure it, he may obtain reliable information from the Secretary of his State Board of Health, from the director of some nearby hospital, or from some recognized medical school or similar institution - for instance, Sprague Institute, Chicago.

Furthermore, in this as in other matters of diet, one should disregard popular beliefs and the statements found in the advertising literature of food cults, and so on. If information is desired concerning advertised diabetic treatment or so-called "cures," it may be obtained by writing to the American Medical Association, 535 N. Dearborn Street, Chicago, Illinois, as this Association has devoted much attention to the study of such matters.

Thinking that they may prove of interest, we have asked the Division of Publications to send copies of bulletins which give data on the general question of the composition of various foods and their use in the ordinary diet.

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OFFICE OF HOME ECONOMICS.

DIET IN RELATION TO GAIN OR LOSS IN WEIGHT.



The questions of diet in obesity and diet in underweight have not been studied in connection with the food investigations of this office, and no flesh-reducing diet lists have been issued in connection with our work. In general, these matters are held to pertain more to medicine than to normal food problems, since the cause of both underweight and overweight may be pathological.

If one believes that his weight should be changed decidedly, advice should be sought from a competent physician, as there are reasons for believing that any attempt to materially raise or lower the body weight may be attended by unpleasant, if not serious, results. In a general way, it may be said that those who have given attention to the subject seem to be agreed that fat foods have greater flesh-producing qualities than other foods have.

A book on reducing weight, which has come to the attention of this office, quotes data on food from some of the publications of the United States Department of Agriculture as, indeed, do many other books. Apparently this has led many persons to suppose either that studies of such matters were being made here or that there was some special connection with such volumes, neither of which suppositions is correct.

Chief, Office of Home Economics.

